silky gold hair, nodded and smiled at the violets and dandelions around her.

Bluster and Sprinkle shook their heads and wondered how Bright had waked her. Bright said nothing, yet still kept on working.

The next time Robin flew by he stopped to speak to Pussy, and to sit and sing to her, telling her, in his song, how sorry he was that he had laughed at her, and how glad that she had at last come out to enjoy the springtime. Pussy was happy to see all her friends again, and to swing to and fro as Bluster rocked her gently. She smiled up at Bright, who still sent his children to play with her.

She thanked Sprinkle whenever he sent her cool, fresh water to drink—as he sometimes did when the days were hot and dusty.

The last we saw of Pussy and her neighbors, she was merrily laughing, surrounded by the violets, dandelions, and spring beauties, the center of a circle, around which her three giant friends were dancing, hand in hand; Sprinkle throwing drops of crystal water over her golden yellow hair, out of which Bluster was trying to shake the drops as he blew the silky threads, and Bright smiling on her until each tiny hair looked like gold, and each drop of water a *real* diamond. ANNE E. ALLEN.

First and Second Grades

Harriet T. B. Atwood

Geography: (See I, under "Nature Study.") The geography work will be a study of the soil relations of areas visited during March and April, and it therefore will not be differentiated from the work in nature study for this month.

Field-trips proposed:

1. Visit to Beverly Hills to see the first spring flowers.

2. Visit to the ravine at Glencoe.

Nature Study: I. Soil studies, associated with the planning of a school garden. The work will be taken up as follows:

1. Selection of the best site available for a garden. Question: What factors must be considered in selecting the site?

2. Examination of the soil of chosen site. Question: What work must be done before seeds are planted? (a) Note packed condition of soil. (b) Note quality of soil.

3. Examination of the different soils which came from the various regions visited during the year. Questions: Which soil would be best for the garden? How determine the best soil?

4. Experiments to determine the relative values for garden purposes of dune sand, swamp muck, clay from bluff at Lakeside, loam from woods, soil from school-yard.

(a) To determine the capacity of various soils to retain water. Material needed: baking-powder cans with perforated bottoms, cheesecloth, 100 c.c. graduate, scales and weights.

Put given amount of air-dry sifted soil into a can with sieve bottom, over which a piece of cheesecloth is tied. Tamp gently, to imitate natural compactness as nearly as possible. Gently pour on water (using graduate so that the amount of water may be known) until it drips away below. Calculate the amount of water held by the soil in question. Use the same amount of a different soil and repeat the experiment.

(b) To determine rate of evaporation from different soils. Material needed: same as in (a). After performing the experiment as directed under (a), weigh the cans of saturated soils. Place them in the open air, and weigh at intervals of a day until they cease to lose weight.

(c) To determine the constituents of the various soils. Material needed: sieves with different sized meshes, large jar, small pans, oven.

By sifting and washing, the children will discover that the different soils contain gravel, coarse sand, fine sand and loam, in varying proportions. By weighing a given amount of soil, burning the same, and reweighing, the

children will discover that some soils contain much organic matter.

The visit to the swamp will be recalled. Questions: How can the great amount of organic matter in the swamp soil be accounted for? What happens to most seeds when they are planted in soil rich in organic matter if it is kept too moist?

The visit to the dunes will be recalled. Question: What dangers await the plant that grows in very sandy soil?

(d) Seeds will be planted in series of pots containing the various soils. One series will be kept very moist, another under average conditions, and the third will be subjected to drought conditions at intervals. Questions: Which soils show disadvantages when kept very moist? Which soils show disadvantages when allowed to become dry?

5. A visit will be made to the Lincoln Park hothouse to see how the gardeners prepare their soil. A sample of this garden soil will be brought home and examined. Question: In what ways do soils become mixed in nature? Note the effect of percolating waters, of burrowing animals, of ants and earthworms.

6. Study of the work of ants and earthworms as soil-mixers.

II. The making of a spring calendar begun in March will be continued. Paintings of the outdoor landscape will be made each week, and also color records of bud development and germination of seeds taking place during April. The children will be encouraged to watch for and report all bird arrivals in the park, and time will be taken for identification of the birds reported.

Art: Painting of the April landscape. Color records of bud development and germination of seeds. Water-color sketches of the areas visited during field-trips. Painting of spring flowers or other perishable specimens collected on field-trips. Drawing and modeling of agricultural tools. Illustration of stories by means of chalk-modeling, painting, and paper-cutting.

History: Study of tools and implements used in cultivating the soil. The children will first discuss the question as to what tools are necessary for their garden work, and will plan and make simple wooden tools to use in planting seeds.

Each child will make a list of the tools which he considers necessary for good gardening. Included in these lists will be, of course, many tools having metal parts. The children will discuss ways of making some metal tools. Question: What metal shall we use?

Experiments with different metals will be made in order to determine what metal can be most easily melted, using the most intense heat at our command, the school furnace. Lead being found to answer the purpose, a pot of that metal will be melted. The children will prepare a mold of the desired tool in damp sand, into which the melted lead will be carefully poured. When cool, a wooden handle will be attached, and the tool will be used. The children will, of course, discover the disadvantages of the lead spade or shovel compared with iron tools.

The relative merits of lead, iron, steel, etc., will be discussed, and the children will read simple descriptions of how these metals were discovered and first used by man.

Literature: Longfellow, *The Birds of Killingsworth;* C. C. N. S. Reading Slips, *The Mole and the Lark; Rhœcus*, adapted from Lowell; Hawthorne, *Philemon and Baucis;* Cooke's *Nature Myths*, *The Story of Prometheus;* George Eliot, *Tubal Cain.*

Industrial Art: Continuation of pottery making begun in March. Casting of garden implement in lead.

Manual Training: Making of simple spear-shaped tools to be used in planting seeds. Completion of work begun in March.

Physical Training: (MISS CRAWFORD.) The work of the children during the year has been planned with reference to the spring sports. Vaulting, jumping, hurdling, and ball-throwing have prepared

them for the Greek festival, and the plan for that outline will form the climax of the year's work in games.

Domestic Science: (See Miss Cooke's outline, "Cooking in Primary Grades.")

Correlated Number: Weighing of given amounts of the various soils to be used in experiments (a) and (b), (see "Nature Study.") Use of graduate and calculation of the number of cubic centimeters of water retained by each kind of soil. Weighing of saturated soil. Reweighing of same soil after evaporation has taken place. Calculation of the amount of water lost by each kind of soil in a given time.

Making of calendar for April.

Speech, Oral Reading and Dramatic Art: I. Phonic games. Dramatization of the legend of the *Sleeping Beauty* in costume.

II. Poems to be memorized: *We Have a Secret, Just We Three;* selections from *The Little Brown Seed*, by Margaret Sidney.

Music: (Miss Goodrich.) *Little Gipsy Dandelion, The Trees, Robin's Return, Ring Around a Rosy, Wrens and Robins, The Rain, The Swallow, In April,* Modern Music Series, Primer; *Easter Song, All the Birds Have Come Again, When the Earth Wakes up in Gladness, Spring Song* (Mendelssohn), Songs for Little Children, No. 1, Eleanor Smith.

Reading: Reading lessons on *Birds, Flowers, Animals* and *Soil*, April Course of Study. Stories of the *Earthworm* and *Ants* from *Animal Life*, by Florence Bass. Texts of songs written on the blackboard.

Additional reading lessons for Second Grade. Stories of the birds that arrive during April, Chase's *Birdland.* Selections about metal-working from *Stories of Industry.* Selections from various First Readers bearing upon the spring subjects.

Writing, Spelling, and English: Recording of observations for spring calendar. Written descriptions of the new birds and flowers seen, for other children to guess. Placing of new words in dictionary and recipes in cook-book. Recording data of experiments. Making list of necessary garden tools. The children will choose one of the stories to be dramatized and will write out their suggestions as to its dramatization.

References: John M. Coulter, *Plant Relations*, p. 160; Jackman, *Nature Study and Related Subjects*, pp. 122-126 and 149-153; *Nature Study for Common Schools*, pp. 436-438 and 390-393; Charles Darwin, *Formation of Vegetable Mould through Action of Worms;* Wright and Coues, *Citizen Bird;* F. H. King, *Soil;* Starr, *First Steps in Human Progress;* Abbot, *Primitive Industry;* Tylor, *Primitive Culture;* Chapman, *Birds of Northeastern North America;* Neltje Blanchan, *Bird Neighbors*, illustrated.

Third and Fourth Grades

Gertrude Van Hoesen

Geography: The subject of transportation as planned for March will continue through April, as it has proved to be very extensive on account of the many excursions that it is necessary to take.

During March one of the children went to Florida for two months. This opened a line of correspondence for the others, who have written letters to him, asking many questions in regard to the country, trees, fruit, flowers, soil, temperature, etc. They also asked him to paint pictures of the different trees, and to make a collection of pressed flowers.

During the last week in March they began a correspondence with a French